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ABSTRACT

This curriculum module contains lesson plans and application activities that were developed to help adult students master the mathematics skills needed to earn a general high school equivalency diploma. Included in the module are materials designed to help students improve their understanding of mathematics and achieve the following objectives: use a systematic method for solving verbal mathematics problems, understand and solve arithmetic problems involving numerical concepts and primary-level operations, solve algebraic problems involving secondary-level mathematics skills, and solve plane and coordinate geometry problems involving several types of geometric figures. A syllabus detailing the topics and homework assignments of the 15-session course is provided along with student handouts and learning activities. (MN)

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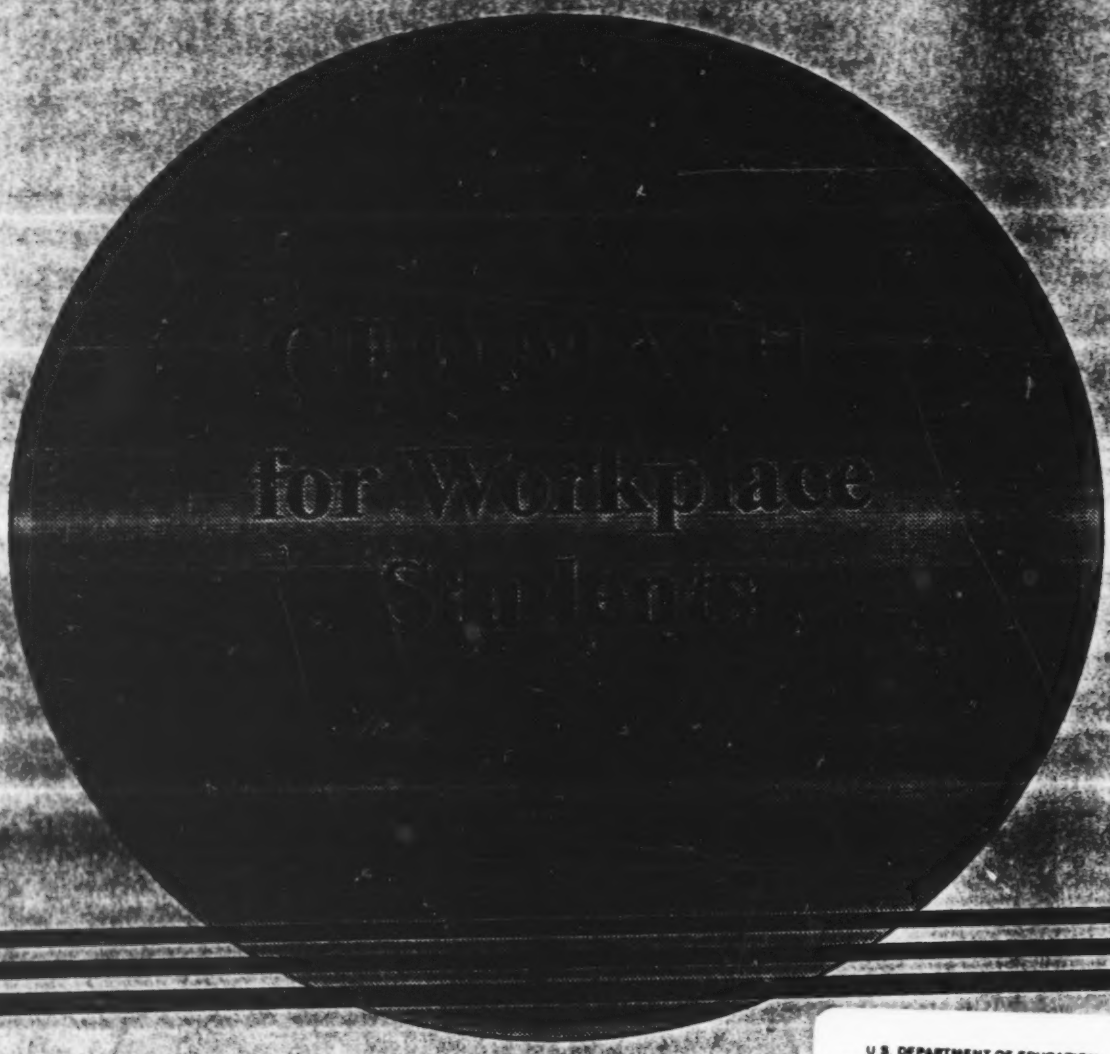

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Colorado Community College and Occupational Education System
United States Department of Education
Corporate, Workforce, & Economic Development, a division of
Pikes Peak Community College
Current, Inc.

GED Math for Workplace Students

Developing the skills that lead to getting a high school diploma while practicing and transferring those skills to a workplace setting was the basis for this curriculum development. While much of the material referenced is from a a major publishing house, students are encouraged to practice skill transfer in daily settings.

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INTRODUCTION

The Workplace Classroom is a set of 11 curriculum modules created by workplace educators from Pikes Peak Community College in collaboration and partnership with employees of Current, Inc., a large greeting card company in Colorado Springs, Colorado. The partnership was formed through an 18-month federal workplace research and development grant from the United States Department of Education awarded to the Colorado Community College and Occupational Education System. Teachers in the project designed, developed and field-tested curricula and materials for the 11 basic skills courses through the process of identifying and understanding the culture of the workplace and the learning needs of the individuals working within it.

The Pikes Peak staff chose not to rely on ready-made materials or programmed texts with which to teach classes. Instead, teachers and curriculum specialists interviewed employees, created job profiles, developed customized assessments, and invited student participation in the development of class content. The result is a unique set of curriculum modules in learning to learn, reading, writing, communication, problem solving, English as a second language, math and algebra that reflect learning needs of real people in a large printing/manufacturing environment. These modules were designed as six week, two hour classes, but the learning rationale and intentions could easily be modified to accommodate longer or shorter sessions.

The idea of following a design process involving the active and continuous commitment and participation of the employee and the employer provides a fresh look at the development of curricula and instruction. The goal of this process is to develop a curriculum product that enhances the basic literacy skills of adults and increases critical thinking and problem solving skills that are easily transferred to occupational improvement. The Pikes Peak staff felt that the best way to reach this goal was to involve employees and employers in the many levels of curriculum development and design.

We believe that these curriculum products are genuine reflections of sound adult learning theory that says adults must have relevant learning experiences that build on prior knowledge and in some way advance positive change in their daily work lives. These modules were built through the active participation and assessment of the adult students for whom they were designed. Those of us who developed these products encourage other workplace educators to use them in part or as complete modules, keeping in mind that their very design welcomes the change and diversity that other workplace environments are sure to lend to them. We feel that the authenticity of our curricula will provide ideas and incentive to other teachers and curriculum specialists who are beginning new programs or are looking for ways of improving existing curricula.

Best of luck with any or all of the Workplace Literacy Modules.

Rita Moore

Rita Moore, Project Leader
Workplace Literacy Grant Pikes Peak Community College

GED MATH FOR WORKPLACE STUDENTS

INTRODUCTION

The lesson plans and application activities in this curriculum module were developed to support identified learning needs of adult students who want to earn a general equivalency diploma for high school. Students represented a variety of skill levels and abilities therefore a variety of material is included. The format for the GED classes is somewhat different from the other workplace curriculum modules. The GED Math and Writing are primarily restricted to assignments in the Steck-Vaughn series with supplementary materials created by teachers that addressed specific learning needs of their students.

The text used for the course was Steck-Vaughn. Sample materials come from Steck-Vaughn and are supplemented by teacher-made application exercises. Students in the course were encouraged to master the material necessary to complete a GED and to also apply new skill to the workplace setting.

Rita Moore, Project Manager
Workplace Literacy Grant Pikes Peak Community College

"This course has taught me that I can do what I never thought I could."

--GED Math Student

GED Math for Workplace Students

Rationale:

The purpose of this course is to help you better understand mathematics and improve your ability to solve mathematical problems. We want to facilitate your progress and to help you more readily accomplish your goals by providing you with the tools and skills to perform the mathematical computations outlined in the course description and pass the mathematical section of the GED. Learning is an active process. Questions indicate that you are thinking and are critical to learning. They should be an integral and accepted component of this course. Improving your ability to think and work more logically, clarify and express concepts that are unclear, and work through difficult problems are also important goals of this class. Achieving these objectives will provide a sense of accomplishment, enhance your self-confidence, and help you express yourself more clearly.

Learning Intentions:

- Develop the skills to use a systematic method for solving verbal mathematics problems.

- This course will provide the skills to understand and be able to solve arithmetic problems involving numerical concepts and primary level operations.

- Participants will be able to solve algebraic problems involving secondary level mathematics skills.

- Participants will be able to solve plane and coordinate geometry problems on several types of geometric figures.

Rita Moore
Project Leader

Claire Goschen
Authors

GED MATHEMATICS CLASS SCHEDULE

ARITHMETIC

Session 1 (3 - 24 - 94)
- Lesson 1: Number Values and Facts
- Lesson 2: Whole Number Operations
- Lesson 3: Steps to Solving Word Problems
- Lesson 4: Steps to Solving Word Problems
- Mini - Review
- Lesson 5: Introduction to Fractions
- Lesson 6: Comparing Fractions
- Lesson 7: Adding and Subtracting Fractions

Session 2 (3 - 31 - 94)
- Questions and Review
- Lesson 8: Multiplying and Dividing Fractions
- Mini - Review
- Lesson 9: Decimals
- Lesson 10: Decimal Operations
- Lesson 11: Decimals and Fractions
- Mini - Review

Session 3 (4 - 7 - 94)
- Questions and Review
- Lesson 12: The Meaning of Percent
- Lesson 13: Solving Percent Problems (Part 1)
- Lesson 14: Solving Percent Problems (Part 2)
- Mini - Review

Session 4 (4 - 14 - 94)
- Questions and Review
- Review: Arithmetic
- Lesson 15: Ratio and Proportions, Mean, Median, and Probability

Session 5 (4 - 21 - 94)
- Questions and Review
- Mini - Review
- Lesson 16: Measurement Systems
- Lesson 17: Perimeter, Circumference, and Area
- Mini - Review

Session 6 (4 - 28 - 94)
- Questions and Review
- Lesson 18: Graphs, Charts, and Tables
- Mini - Review
- Review: Measurements
- Evaluation

ALGEBRA

Session 7 (5 - 5 - 94)
- Questions and Review
- Lesson 19: Signed Numbers and Algebraic Expressions

Session 8 (5 - 12 - 94)
- Questions and Review
- Lesson 20: Equations

Session 9 (5 - 19 - 94)
- Questions and Review
- Lesson 21: Special Topics

Session 10 (5 - 26 - 94)
- Questions and Review
- Lesson 22: Exponents and Roots
- Mini-Review
- Review: Algebra

GEOMETRY

Session 11 (6 - 2 - 94)
- Questions and Review
- Lesson 23: Volume

Session 12 (6 - 9 - 94)
- Questions and Review
- Lesson 24: Angles

Session 13 (6 - 16 - 94)
- Questions and Review
- Lesson 25: Triangles and Quadrilaterals
- Lesson 26: Congruence and Similarity

Session 14 (6-23-94)
- Questions and Review
- Lesson 27: Pythagorean Theorem
- Mini-Review
- Review: Geometry

Session 15 (6 - 30 - 94)
- Questions and Review
- Post Test

GED MATHEMATICS

ARITHMETIC - UNIT ONE

LESSON 1: NUMBER VALUES AND FACTS
- Place Value
- Reading and Writing Whole Numbers
- Comparing Numbers (< less than, = equal to, > greater than)
- Rounding
- Strategies for Solving Word Problems (choose the operation: + - × ÷)

LESSON 2: WHOLE NUMBER OPERATIONS
- Addition of Whole Numbers
- Subtraction of Whole Numbers
- Multiplication of Whole Numbers
- Division of Whole Numbers
- Strategies for Solving Word Problems (read, plan, solve, check)

LESSON 3: STEPS TO SOLVING WORD PROBLEMS
- Estimation
- Identifying Necessary Information

LESSON 4: STEPS TO SOLVING WORD PROBLEMS
- Multi-Step Problems
- Organizing Information

GED MINI-REVIEW

LESSON 5: INTRODUCTION TO FRACTIONS
- Facts About Fractions
- Proper Fractions
- Improper Fractions
- Mixed Numbers
- Changing Improper Fractions and Mixed Numbers

LESSON 6: COMPARING FRACTIONS
- Equal Fractions
- Building Equal Fractions
- Comparing Fractions

LESSON 7: ADDING AND SUBTRACTING FRACTIONS
- Like Fractions
- Unlike Fractions
- Adding and Subtracting Mixed Numbers
- Strategies for Solving Word Problems (read, plan, do, check)

LESSON 8: MULTIPLYING AND DIVIDING FRACTIONS
- Multiplying Fractions
- Dividing Fractions
- Strategies for Solving Word Problems (identifying necessary information)

GED MINI-REVIEW

LESSON 9: DECIMALS
- Place Values, Comparing, and Rounding
- Reading Decimals
- Comparing and Ordering Decimals
- Rounding
- Strategies for Solving Word Problems (use estimation with money)

LESSON 10: DECIMAL OPERATIONS
- Adding and Subtracting Decimals
- Multiplying Decimals
- Dividing Decimals
- Multiplying and Dividing by Powers of 10
- Strategies for Solving Word Problems (solving multi-step problems)

LESSON 11: DECIMALS AND FRACTIONS
- Changing Decimals to Fractions
- Changing Fractions to Decimals
- Working with Money
- Strategies for Solving Word Problems (use the same system)

GED MINI-REVIEW

LESSON 12: THE MEANING OR PERCENT
- Percent
- Changing a Percent to a Decimal
- Changing a Decimal to a Percent
- Changing a Fraction or a Mixed Number to a Percent
- Changing a Percent to a Fraction or a Mixed Number
- Strategies for Solving Word Problems (use mental math)

LESSON 13: SOLVING PERCENT PROBLEMS (PART 1)
- Finding the Part
- Solving for Rate
- Finding Percent of Increase or Decrease
- Strategies for Solving Word Problems (use mental math)

LESSON 14: SOLVING PERCENT PROBLEMS (PART 2)
- Finding the Base
- Solving Interest Problems
- Strategies for Solving Word Problems (solving multi-step problems)

GED MINI-REVIEW

REVIEW: ARITHMETIC

LESSON 15: RATIO AND PROPORTIONS, MEAN, MEDIAN, AND PROBABILITY
- Ratio and Proportion
- Mean and Median
- Probability
- Strategies for Solving Word Problems (use proportions to solve word problems)

GED MINI-REVIEW

LESSON 16: MEASUREMENT SYSTEMS
- The Standard System
- Converting Measurements
- Operations with Measurements
- The Metric System
- Metric Conversions
- Operations
- Strategies for Solving Word Problems (use mental math)

LESSON 17: PERIMETER, CIRCUMFERENCE, AND AREA
- Perimeter
- Circumference
- Area of Squares and Rectangles
- Parallelograms
- Triangles
- Circles

GED MINI-REVIEW

LESSON 18: GRAPHS, CHARTS, AND TABLES
- Graphs
- Tables and Charts
- Strategies for Solving Word Problems (organizing information)

GED MINI-REVIEW

REVIEW: MEASUREMENTS

GED MATHEMATICS

ALGEBRA - UNIT 2

LESSON 19: SIGNED NUMBERS AND ALGEBRAIC EXPRESSIONS
- Integers
- Addition
- Subtraction
- Multiplication and Division
- Order of Operation
- Algebraic Expressions

LESSON 20: EQUATIONS
- Equations
- One-Step Equations
- Two-Step equations
- Strategies for Solving World Problems
  - step 1. Identify the unknown amount, x.
  - step 2. Label the other quantities in terms of x.
  - step 3. Write the equation.
  - step 4. Solve for x.
  - step 5. Check your answer.

LESSON 21: SPECIAL TOPICS
- Solving Inequalities
- Factoring
- Graphs
- Graphing Equations
- Slope

LESSON 22: EXPONENTS AND ROOTS
- Exponents
- Roots
- Strategies for Solving World Problems (working backwards)

GED MINI-REVIEW

REVIEW ALGEBRA

GEOMETRY - UNIT 3

LESSON 23: VOLUME
- Perimeter
- Circumference
- Area
- Volume
- Strategies for Solving Word Problems (converting measurements)

LESSON 24: ANGLES
- Ray, Vertex, and Degree
- Right, Acute, Obtuse, Straight, and Reflex
- Congruent
- Intersect, Vertical Angles, and Perpendicular
- Adjacent and Non-Adjacent
- Parallel and Transverse
- Corresponding
- Alternate Exterior and Alternate Interior
- Complementary and Supplementary
- Strategies for Solving Word Problems (draw a diagram)

LESSON 25: TRIANGLES AND QUADRILATERALS
- Triangles
- Quadrilaterals
- Strategies for Solving Word Problems (use logical reasoning)

LESSON 26: CONGRUENCE AND SIMILARITY
- Congruence
- Similarity
- Strategies for Solving Word Problems (use proportions to solve indirect measurements)

LESSON 27: PYTHAGOREAN RELATIONSHIPS
- Pythagorean Theorem
- Strategies for Solving Word Problems (use mental math)

GED MINI-REVIEW

REVIEW GEOMETRY

POST TEST

BASIC MULTIPLICATION FACTS

X	0	1	2	3	4	5	6	7	8	9
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										

MULTIPLICATION PRACTICE 1

X	6	2	3	8	0	5	7	9	1	4
5										
7										
1										
0										
6										
2										
3										
8										
4										
9										

MULTIPLICATION PRACTICE 2

X	2	7	0	5	3	4	8	1	6	9
1										
6										
5										
3										
0										
9										
4										
7										
2										
8										

MATHEMATICS REVIEW (Exercise Book)

NAME _____ DATE _____

FRACTIONS (Page 27) TIME: 10 Minutes

1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5
6.	1	2	3	4	5

DECIMALS (Page 30) TIME: 10 Minutes

1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5
6.	1	2	3	4	5
7.	1	2	3	4	5

PROBABILITY (Page 34) TIME: 10 Minutes

1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5
6.	1	2	3	4	5

MEASUREMENT (Page 36) TIME: 10 Minutes

1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5

PERCENT (Page 39) TIME: 12 Minutes

1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5
6.	1	2	3	4	5
7.	1	2	3	4	5
8.	1	2	3	4	5

GRAPHS AND CHARTS (Page 50) TIME: 25 Minutes

1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5
6.	1	2	3	4	5
7.	1	2	3	4	5
8.	1	2	3	4	5
9.	1	2	3	4	5
10.	1	2	3	4	5
11.	1	2	3	4	5
12.	1	2	3	4	5
13.	1	2	3	4	5
14.	1	2	3	4	5
15.	1	2	3	4	5
16.	1	2	3	4	5

ALGEBRA REVIEW LESSON 19

Evaluate:

1. $8 - (-4) = x$

2. $-4.5 \div (-1.5) = y$

3. $(6)(-2)(-1/3) = w$

4. $(-4)(-1)(2) = z$

5. $36 / -12 = q$

6. $-49 / -7 = p$

6. $(-2 - 8) / (6 / -6) = r$

7. $[-4 + (-6)] / [4 - (-1)] = t$

Combine Like Terms:

8. $a + 6b + a - 8b - 2a =$

9. $3x + 12y - 5x - 10y =$

Find The Value:

10. $(-1) + x^2 + 8$, when $x = -4$

11. $(6xy) / x$, when $x = -3$, $y = 2$

Translate The Following:

12. four times a number divided by 3

13. three times a number minus 9

ALGEBRA REVIEW LESSON 20

Evaluate:

1. $(-4a^3)(-3a) =$

2. $(a^2 + ab + c) + (3a^2 - 4ab - 7) =$

3. $(15x^2y^2z^2) / (-5xyz) =$

4. $(3x^2 + 4x - 10) - (5x^2 - 3x + 7) =$

Simplify:

5. $-3(6a + c) + (-2)(a - 10c) =$

6. $7(n - r) - (-2)(r + n) =$

7. $(-3x)(-4y) =$

8. $(-2y)(-5)(y) =$

Solve:

9. $x - 6 = 3$

10. $x + 5 = 16$

11. $2x = 28$

12. $(1/3)x = 10$

Write and Solve:

13. six less than some number equals two

14. twice a number is sixty-eight

15. five more than some number equals 30

16. a number divided by 6 equals 5

Solve:

17. $4x + 5x - 10 = 35$

18. $6 - x + 12 = 10x + 7$

19. $6(2 + x) = 5x + 15$

20. $-2(x + 2) = 4x - 10$

Write and Solve:

21. six less than twice a number is 24

22. the product of a number and 5 is 12 less than the number

23. eight times a number added to 10 is equal to that number multiplied by 3

24. add 7 to twice a number; the result is 10 more than the number

Solutions: **lesson 19** **1.** 12 **2.** -6.0 **3.** 4 **4.** 8 **5.** -3 **6.** 7 **7.** 10 **8.** 4a -2b **9.** $-2x + 2y$ **10.** 11 **11.** 12 **12.** $4n/3$ **13.** 3n-9 **lesson 20** **1.** $12a^4$ **2.** $4a^2 + 5ab + c - 7$ **3.** $-3xyz$ **4.** $2x^2 + x - 3$ **5.** $-20a - 23c$ **6.** $5n - 9r$ **7.** $12xy$ **8.** $10y^2$ **9.** $x = 9$ **10.** $x = 11$ **11.** $x = 14$ **12.** $x = 30$ **13.** $n - 6 = 2$, $n = 8$ **14.** $2n = 68$, $n = 34$ **15.** $n + 5 = 30$, $n = 25$ **16.** $n/6 = 5$, $n = 30$ **17.** $x = 5$ **18.** $x = 1$ **19.** $x = 3$ **20.** $x = 1$ **21.** $2n - 6 = 24$, $n = 15$ **22.** $5n + 12 = n$, $n = -3$ **23.** $8n + 10 = 3n$, $n = -2$ **24.** $2n + 7 = n + 10$, $n = 3$

GED MATHEMATICS ASSIGNMENTS

SESSION 1

LESSON 1
- Page 32-33: 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
- Page 35: 1, 2, 3, 5

LESSON 2
- Page 40: 6, 12, 16, 27, 30, 33, 35, 36, 40
- Page 43: 1, 2, 3, 5

LESSON 3
- Page 48-50: 5, 6, 8, 12, 13, 15, 16, 17, 18, 19, 20

LESSON 4
- Page 58-59: 4, 5, 7, 8, 9, 10, 11, 12

GED MINI-TEST
- Page 64-65: Complete all problems within 20 minutes.

LESSON 5
- Page 72-73: 2, 3, 9, 10, 17, 21, 25, 29, 31, 32

LESSON 6
- Page 80-81: 1, 5, 9, 13, 17, 21, 25, 28, 29, 32, 35, 37
- Page 83: 4, 5, 6

LESSON 7
- Page 88: 3, 5, 9, 12, 13, 17, 18, 21, 22, 23
- Page 91: 2, 4, 6

GED MATHEMATICS ASSIGNMENTS

SESSION 2

LESSON 8

Page 96-97: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30
Page 99: 1, 2, 3, 4, 5, 6

GED MINI-TEST

Page 102-3: Complete all problems within 20 minutes.

LESSON 9

Page 109: 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33
Page 11: 4, 5

LESSON 10

Page 116-17: 9, 10, 11, 12, 14, 15, 16, 18, 19, 21, 24, 25, 26, 27, 28, 29, 30
Page 121: 3, 4

LESSON 11

Page 126-27: 2, 3, 5, 13, 14, 15, 16, 21, 22, 24
Page 129: 1, 3, 4, 5

GED MINI-TEST

Page 132-33: Complete all problems in 20 minutes.

GED MATHEMATICS ASSIGNMENTS

SESSION 3

EXERCISE BOOK

Page 23: 1, 2, 3, 4, 5, 6, 7

Page 24: Ged Test Practice Set-Up Problems (Complete all problems in 10 minutes.)

Page 26: Ged Test Practice Fractions (Complete all problems in 12 minutes.)

Page 29: Ged Test Practice Decimals (Complete all problems in 10 minutes.)

LESSON 12

Page 137-9: 1, 2, 3, 6, 7, 8, 10, 11, 13, 15, 17, 19, 23, 25

Page 141: 1, 2, 3, 4, 5, 6

LESSON 13

Page 145-6: 1, 5, 10, 13, 16, 18, 21, 22

Page 148-9: 23, 25, 27, 30, 33, 35, 36, 40, 41, 42, 43

Page 151: 2, 6

LESSON 14

Page 155-6: 1, 4, 6, 7, 9, 12, 18, 19, 22

Page 158-9: 23, 25, 27, 30, 32, 34, 35, 36, 38, 40

Page 161: 1, 3, 4, 5, 6

GED MATHEMATICS ASSIGNMENTS

SESSION 4

ARITHMETIC REVIEW

Handout: Allow 1 hour and 15 minutes to complete.
Record your answers on the sheet provided.
Do not use a calculator or other help.
Hand in test at the next class session.

LESSON 15

Page 181-3: 9, 11, 14, 15, 17, 19, 20, 23, 25, 30, 32, 33

Page 188-9: 1, 6, 7, 13

EXERCISE BOOK

Page 31: Look at the example (first example) on series problems.

Page 32: 5, 6

SESSION 5

Review Percent

Page 185: 1, 2, 3, 4, 5, 6, 7

LESSON 16

Page 196-7: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 17, 19, 20, 22, 24, 26

Page 199: 1, 3, 6

LESSON 17

Page 207-9: 7, 8, 9, 11, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26

GED MINI-TEST

Page 212-13: Allow 20 minutes to take this test.

MATHEMATICS ASSIGNMENTS

SESSION 6

LESSON 18

Page 217-19: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16

Optional (Exercise Book - Chapter 7: Pages 40-49)

GED MINI-TEST

Page 224-25: Allow 13 minutes to complete.

GED MATHEMATICS ASSIGNMENT

SESSION 7

LESSON 19

Page 242 - 43:	Do all the problems in this section.
Page 245:	Do all the problems in this section.

EXERCISE BOOK

Page 62:	Do all the problems in this section.
Page 66:	Do all the problems in this section.

GED MATHEMATICS ASSIGNMENT

SESSION 8

LESSON 20

Page 252 - 53: Do all the problems in this section.

EXERCISE BOOK

Page 64: Do all the problems in this section.

Page 65: Do all the problems in this section.

Page 68: Do all the problems in this section.

Page 69: Do all the problems in this section.

GED MATHEMATICS ASSIGNMENT

SESSION 9

EXERCISE BOOK (Formula Problems)

Page 74: 2, 3, 4, 9, 10, 13

LESSON 20

Page 256: 2, 3, 5, 6, 8, 12, 13

LESSON 21

Page 262-63: 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24

Page 265: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

EXERCISE BOOK (Inequalities)

Page 77: All the Examples (1, 2, 3, 4, 5)

Page 78: Example, Problems: 1, 2, 3

LESSON 25

Equilateral Triangle: The length of the sides of the triangle are equal and the measure of each angle is equal.

Isosceles Triangle: The length of two sides of the triangle are equal and the measure of two angles of the triangle are equal.

Interior Angles: The sum of all the interior angles of any triangle is equal to 180°.

Problems: page 320-321 1, 2, 6, 7, 9, 10, 11, 24, 25, 27

page 323 1, 3, 4, 5

LESSON 26

Similar Triangles: Two triangle are similar if the corresponding angles have equal measure and the coressponding sides are in proportion.

Proportions: When two triangle are similar, a proportion can be set up to solve the problem.

Scale Drawing: A scale drawing is a sketch of an object with all distances in proportion to the corresponding distances on the actual object. The scale gives the ratio of the sketch measurement to the corresponding measurement on the actual object.

Problems: pages 328-9 1, 2, 3, 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37

page 331 1, 4, 5, 6

LESSON 27

Pythagorean Theorem: $(\text{leg } 1)^2 + (\text{leg } 2)^2 = (\text{hypotenuse})^2$ or $a^2 + b^2 = c^2$
(hypotenuse - side opposite right angle)

Problems: page 336-337 1, 2, 3, 9, 11, 13, 16, 17, 18

GEOMETRY

LESSON 23

Perimeter: square ($P = 4s$), rectangle ($P = 2l + 2w$), circumference ($C = \pi d$), and odd shape

Area: square ($A = s^2$), rectangle ($A = lw$), and circle ($A = \pi r^2$)

Volume: cube ($V = s^3$), rectangular ($V = lwh = Ah$), cylinder ($V = \pi r^2 h = Ah$)

Units: All units of measure must be the same. Convert any unlike units to those used in the answer options. (example: $l = 2$ ft and $w = 6$ in, change all units either to feet or to inches)

Problems: page 304-305 1, 3, 6, 7, 8, 14, 15, 16, 17, 19

page 307 1, 2, 3, 4

LESSON 24

Degree: Unit of measure for angles.

Angles: right angles = 90^0 straight angles = 180^0 corresponding angles (page 311)

Perpendicular: Two intersecting lines which form right angles (90^0)

Complementary Angles: If the sum of the measures of two angles is 90^0, they are called complementary angles.

Supplementary Angles: If the sum of the measures of two angles is 180^0, they are called supplementary angles.

Diagram: Drawing a diagram is a method that helps you see how the information in a problem is related. Diagrams are very helpful in solving geometry problems.

Problems: page 315 1, 2, 5, 6

REFERENCES:

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Yamato, Yoshiko, and Cordon, Mary Jane. *Mastering Mathematical Concepts*. San Diego: Harcourt Brace Jovanovich, 1991.

GED Mathematics. Steck-Vaughn Company, 1991.

Pre-GED Mathematics. Steck-Vaughn Company, 1992.

SKILLS FOR A COMPETITIVE WORKFORCE
PARTICIPANT DATA SHEET

Please fill out the following information. Print or write clearly. This information will be used for demographic and statistical purposes only.

SECTION I (Identification)

Name:_____ Social Security Number: ___-___-____
Last Name, First Name Middle Initial

Street Address:_____ City:_____ Zip Code:_____

Phone Number: (___) ___-____

Department: _____ Position:_____

SECTION II (demographic information)

1. Yrs. with company (circle one): a. unemployed b. 0-5 c. 6-10 d. 11-15 e. over 16

2. Age: __ 3. Sex: M F

4. Ethnicity (circle one): a. White b. Black c. Hispanic d. American Indian/Alaska Native e. Asian/Pacific Islander f. Other

5. Single: Y N
Head of Household: Y N

6. Is English your second language? Y N

7. Participating in (circle one or more):
   a. Basic Skills Program
   b. GED Program
   c. ESL Program

SECTION III (outcome information)

Assesment Planning:

8. Course Title:_____ (check one: __ Basic Skills, __ GED, __ ESL)

	Goals	Assessment Tool	Pre-Asses Results	Post-Asses Results	Improved
9.	Test Higher on Basic Skills: _____				Y N
10.	Improved Communication Skills:				Y N
11.	Increased Productivity:				Y N
12.	Improved Work Attendance:				Y N
13.	Increased Self-Esteem:				Y N

14. Contact Hours: __ __ __ __

15. Course Title:_____ (check one: __ Basic Skills, __ GED, __ ESL)

	Goals	Assessment Tool	Pre-Asses Results	Post-Asses Results	Improved
16.	Test Higner on Basic Skills: _____				Y N
17.	Improved Communication Skills:				Y N
18.	Increased Productivity:				Y N
19.	Improved Work Attendance:				Y N
20.	Increased Self-Esteem:				Y N

21. Contact Hours: __ __ __ __

22. Course Title:_____ (check one: __ Basic Skills, __ GED, __ ESL)

	Goals	Assessment Tool	Pre-Asses Results	Post-Asses Results	Improved
23.	Test Higner on Basic Skills: _____				Y N
24.	Improved Communication Skills:				Y N
25.	Increased Productivity:				Y N
26.	Improved Work Attendance:				Y N
27.	Increased Self-Esteem:				Y N

28. Contact Hours: __ __ __ __

29. Course Title:_____ (check one: __ Basic Skills, __ GED, __ ESL)

	Goals	Assessment Tool	Pre-Asses Results	Post-Asses Results	Improved
30.	Test Higner on Basic Skills: _____				Y N
31.	Improved Communication Skills:				Y N
32.	Increased Productivity:				Y N
33.	Improved Work Attendance:				Y N
34.	Increased Self-Esteem:				Y N

35. Contact Hours: __ __ __ __

EVALUATION

STUDENT DAILY LOG

NAME:

DATE:

CLASS:

1. What did you learn today? What did you find useful about the lesson? How was it interesting?

2. What did you find not necessarily useful, and what could have been done to improve the effectiveness of the lesson?

3. What other reactions do you have to the class, materials, discussion, etc.?

4. Are you comfortable with the material? Why or why not?

5. How have you used any of the information learned in previous classes?

WORKPLACE LEARNING PROGRAM
PARTICIPANT EVALUATION
CURRENT AND PIKES PEAK COMMUNITY COLLEGE

Please answer the questions which follow. Your responses will help us in making improvements in the course.

1. How would you rate the content of this course?

Too Difficult		Just Right		Too Easy
5	4	3	2	1

2. How would you rate the quality of the instruction materials?

Very Interesting		Somewhat Interesting		Uninteresting
5	4	3	2	1

3. How useful was the course in helping you on the job?

Very Useful		Somewhat Useful		Not Useful
5	4	3	2	1

4. Overall, how satisfied were you with the course?

Very Satisfied		Somewhat Satisfied		Very Dissatisfied
5	4	3	2	1

5. What did you like the best about this course?_____
_____
_____
_____

6. What could have been done to improve the effectiveness of the course?_____
_____
_____
_____

7. How would you rate the quality of the instructional materials?
_____
_____
_____

8. Would you like additional time spent on this subject? Yes_____
No_____ If yes, what specific subjects?_____
_____
_____

9. In what specific ways has this course helped you to do your job better?_____
_____
_____

10. How has this course helped meet goals you set before taking it?

11. Would you recommend this course to a co-worker? Yes_____No_____
Why or Why not?

12. Do you feel more confident about your learning abilities because of this class?

13. Will what you learned in class make a positive, noticeable difference in your outside interests?

WORKPLACE LEARNING PROGRAM
INSTRUCTOR EVALUATION
CURRENT AND PIKES PEAK COMMUNITY COLLEGE

Please check one response to each question.	Excellent	Very Good	Satisfactory	Needs Improvement	Poor
1. The instructor is organized in his/her teaching of this class.					
2. The instructor projects warmth, friendliness and enthusiasm in his/her presentation.					
3. The instructor returns tests and assignments within one class session.					
4. The instructor encourages student participation in class.					
5. The instructor reacts in a positive manner to students' questions and responses.					
6. The instructor is willing to give individual help when you request it.					
7. The instructor clearly communicates how the course is related to your learning needs.					
8. The instructor is skilled and knowledgeable in the material.					
9. You feel comfortable with asking your instructor to teach what you feel is important to your learning needs.					
10. By reviewing your portfolio, you are familiar with the changes in your own learning.					

What comments do you have that will help in the design of future courses?_____

_____

_____

_____

_____